

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

The claims have been amended to clarify that the O-ring has a circular section. Additionally, Claims 2 and 4 have been cancelled and the subject matter thereof has been incorporated into Claims 1 and 3, respectively.

Claims 1-2 were again rejected under 35 U.S.C. § 103 as being obvious over Furukoshi et al in view of Kubo et al. Additionally, Claims 3-5 were rejected under 35 U.S.C. § 103 as being obvious over Alten et al in view of Kubo et al. Applicants wish to thank Examiner Pilkington for the courtesy of an interview at which time these rejections were discussed with reference to the presently amended claims. No agreement was reached at that time, pending the examiner's consideration of a written response.

As was discussed during the interview, the claims now clarify that the O-ring has a circular section and that the larger chamfered portion is spaced from the bottom face of the groove by a distance of 1/2 or more of the thickness of the O-ring. The combination of the circular section of the O-ring and the chamfered portion being spaced from the bottom face of the groove by a distance of 1/2 or more of the thickness of the O-ring provides a further synergy as explained below.

It has already been explained that the present invention provides an asymmetry for the groove housing the O-ring, i.e., a chamfered portion on one of the side faces of the groove closer to the open end of the bearing support so that the O-ring can deform to fill the chamfer and will not become sandwiched between the opening edge of the groove and the housing.

Additionally, in the case of an O-ring having a circular section, the chamfer raises the risk that the entire O-ring can ride up the chamfer in the axial direction. It has been recognized by the inventors, however, that this problem of an O-ring having a circular section can be minimized by maintaining the larger chamfered portion spaced from the bottom face

of the groove by a distance of 1/2 or more of the thickness of the O-ring. See paragraph bridging pp. 4-5. This is because, in such a case, the widest part of the circular section O-ring will not press on the chamfered portion.

There is no dispute that both Furukoshi et al and Altun et al lack the claimed groove having asymmetric chamfered portions.

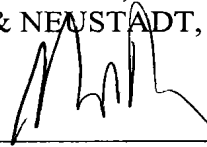
Kubo et al is directed to a problem specific to a brake piston and would not suggest the present invention. Kubo et al discloses a generally rectangular piston seal provided in an asymmetric groove in a disk brake. However, the asymmetry in Kubo et al is provided for retracting the brake piston when brake fluid pressure is released in a breaking operation (Figure 2C; column 1, lines 23-28). Since the piston seal 1 is made rectangular, its flat face can be surely gripped by the advancing piston 4 and will also surely grip the piston 4 to spring back and retract the same. This would only motivate one skilled in the art to provide such a chamfer for other applications in which a rectangular seal must similarly perform a spring back function to retract parts to their initial position, not for a generic O-ring.

Thus, the chamfer structure of Kubo et al would not have been obvious in Furukoshi et al or Altun et al because it is specifically designed for brake retraction applications after the assembly of the brake structure has been completed. It would not suggest an asymmetric chamfer in any other context. In any case, none of the cited prior art teaches that the chamfer in a groove with an O-ring having a circular section should be spaced from the bottom face of the groove by a distance of 1/2 or more of the thickness of the O-ring, as is now also claimed. The claims therefore define over this prior art.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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